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Amendment to the Claims:

1. (Original) A method for planning the direction and inclination of a well bore trajectory using
graphical techniques comprising the steps of:

generating an initial starting point and ending point for a well bore trajectory, the well trajectory having hold and curve sections;

creating a control point for each desired curve section between the starting point and ending point, said control points being at locations off said curve section;

identifying tangent points along the well bore trajectory where the hold sections contact a curve section of the trajectory;

determining any directional constraints on the ability to manipulate the control point; and

graphically manipulating multiple sections of the well bore trajectory simultaneously by directional movement of points related to the well bore trajectory within said determined directional constraints.

2. (Original) The method as described in claim 1 wherein said graphical manipulation comprises directional movement of control points.

3. (Original) The method as described in claim 1 wherein said graphical manipulation comprises directional movement of identified tangent points.

4. (Original) The method as described in claim 1 wherein said graphical manipulation comprises directional movement of control points and identified tangent points.

5. (Original) The method as described in claim 1 wherein said control point creating step comprises projecting each hold section contacting a curve section beyond the tangent points in the direction of hold section such that the projections of the hold sections intersect and

form-a control point for that contacted curve section at the intersection point of the hold section projections.

6. (Currently Amended) The method as described in claim 1 wherein said directional movement constraints determination step is determined by

$$C = v\,\xi + S, \text{ where } \xi > 0$$

where C is a control point, S is a starting point, v is a vector extending from S, and ξ is a scalar distance, further where C only has one degree of freedom.

7. (Original) The method as described in claim 6 wherein said direction constraint determination step determines that there are no directional movement constraints on the control point, thereby enabling movement of the control point in any direction.

8. (Original) The method as described in claim 1 wherein said graphical manipulation of the well bore trajectory further comprises manipulating multiple sections of the trajectory by moving a control point while maintaining a constant radius of the curve section corresponding to that control point.

9. (Original) The method as described in claim 3 wherein the manipulation of the curve section comprises moving the points along the projected hold section lines.

10. (Original) The method as described in claim 9 wherein said well plan further comprises multiple curve sections, connected by hold sections, said well plan also having a control point at each curve section, and wherein tangent point manipulation is constrained to movement of the tangent points along directional lines that connect adjacent control points.

11. (Original) The method as described in claim 10 wherein the movement of a tangent point cannot extend passed an adjacent control point or tangent point.

12. (Original) A computer program product in a computer readable medium for graphically planning the direction and inclination of a well bore trajectory using graphical techniques comprising:

instructions for generating an initial starting point and ending point for a well bore trajectory, the well trajectory having hold and curve sections;

instructions for creating a control point for each desired curve section between the starting point and ending point, said control points being at locations off said curve section;

instructions for identifying tangent points along the well bore trajectory where hold sections contact a curve section of the trajectory;

instructions for determining any directional constraints on the ability to manipulate the control point; and

instructions for graphically manipulating multiple sections of the well bore trajectory simultaneously by directional movement of points related to the well bore trajectory within said determined directional constraints.

13. (Currently Amended) The computer program product as described in claim 12 wherein said directional movement constraints determination instructions further comprise instructions for determining movement constraints using

$$c = v\,\xi + S, \text{ where } \xi > 0$$

where control point C only has one degree of freedom, and ξ and v is a vector describing the direction of the one degree of freedom .

14. (Original) The computer program product as described in claim 13 wherein said control point creating instructions further comprise instructions for projecting each hold section beyond the tangent points in the direction of hold section such that the projections of the hold sections that are tangent to a common curve section intersect and form a control point for that curve section at the intersection point of the hold section projections.

15. (Original) The computer program product as described in claim 12 wherein said

graphical manipulation of the well bore trajectory instruction further comprises instructions for manipulating multiple sections of the trajectory by moving a control point while maintaining a constant radius of the curve section corresponding to that control point.

16. (Original) The computer program product as described in claim 12 further comprising instructions for manipulation of the well bore trajectory using the identified tangent points.

17. (Original) The computer program product as described in claim 15 wherein the manipulation of the curve section instructions further comprise instructions for moving the tangent points along the hold section lines.

18. (Original) A graphical well bore trajectory display capable of real-time graphical manipulation comprising:

an initial hold section at the starting point of the well bore trajectory;

a curve section connected to said initial hold section;

a second hold section connected to said curve section; and

a control point positioned at a location of the well bore trajectory, to enable simultaneous manipulation of said hold and curve sections of the well bore.

19. (Original) The graphical well bore trajectory display as described in claim 18 wherein said well bore display further comprises:

a starting point at the initial hold section;

an end point at the end of said second hold section; and

tangent points at points where the hold sections intersect the curve sections.

20. (Original) The graphical well bore trajectory display as described in claim 19 wherein the radius of the curve section remains constant during graphical manipulation of the well bore trajectory.

21. (Original) The graphical well bore trajectory display as described in claim 19 wherein the distance from each tangent point of a curve section to said control point for that curve section is equal.

22. (Original) The graphical well bore trajectory display as described in claim 18 wherein a said control point for a curve section is formed at the intersection of projections of said hold sections that connect to the curve section.

23. (Original) The graphical well bore trajectory display as described in claim 18 further comprising multiple curve sections in the trajectory, each said curve section having corresponding tangent points and a corresponding control point.

24. (Original) The graphical well bore trajectory display as described in claim 23 further comprising hold sections between said multiple curve sections, a said hold connecting two curve sections.

25. (Original) The graphical well bore trajectory display as described in claim 23 wherein a pair of said curve sections is directly connected at a tangent point common to both curve sections.

26. (New) The method of claim 1, further comprising:

associating at least one control point with multiple tangent points for corresponding curve sections, wherein manipulation of one of the control or tangent points causes manipulation of the associated control and tangent points.

27. (New) The computer program of claim 12, further comprising:

instructions for associating at least one control point with multiple tangent points for corresponding curve sections, wherein manipulation of one of the control or tangent points causes manipulation of the associated control and tangent points.